Calculating the Process Profile Variance

(How does the CAO's work - the "mix" of PLAS processes - on a specific "kind of contract" compare to other CAO's "mix" of processes)

The Process Profile Variance is a method of comparing a CAO's processes to do a "Kind of Contract" to an average profile of all other Geographical Offices or Plant Offices. The assumption is that if we are 'working' on a supply kind of contract in one CAO that the work that we do at another CAO on a supply contract should be similar. It is only one tool to analyze the "work" DCMC accomplishes. There can be many reasons why a CAO's profile of work on a particular kind of contract would differ from another's mix of PLAS processes. Maybe a CAO has several special delegations from a buying office or a truly specialized product line.

The first step to accomplish the analysis is to develop a "master profile" for a "kind of contract". A separate profile is developed for Geographical and Plant Offices. The total hours for each process are then calculated for a "kind of contract". Figure 1 shows an abbreviated list of the processes for a "kind of contract".

Kind of Contract - Supply

Column A	Column B	Column C	Column D	Column E CAO A	Column F CAO A	Column G CAO A
Process	Total Plant Hours	% of Kind Total	Master Std Dev	% of Kind for CAO	ABS # StdD	Wtd ASTD
031 - Contract Receipt, Review & Postaward	100	0.10%	0.02%	0.15%	2.5	0.0025
038 - Program Integration	200	0.20%	0.04%	0.30%	2.5	0.005
81A - Manufacturing Process Surveillance	500	0.50%	0.02%	0.30%	10	0.05
181 - Contract Closeout	200	0.20%	0.01%	0.25%	5	0.01
Total DNA						0.0675

Figure 1

Column B shows the total hours for all Geographical offices (or all Plant Offices), which is then translated in to percentages – column C. The standard deviation of all CAOs' individual percentages is calculated for each process – column D. Columns B and C represents the "master profile" for a "kind of contract". To determine how the CAO profile varies from the "master profile" the process percentages for the CAO are developed just as they were for the total plant hours – column E. If a CAO is accomplishing its work exactly as the master profile columns C and E would be identical. We next calculate the absolute value of the number of standard deviations a CAO is from the "master profile" for each process – column F. Column F is calculated by taking the absolute value of the result of subtracting the CAO % of kind (column E) from the plant total % of kind (column C) and dividing the result by the master standard deviation (Column D). Finally column F is multiplied by the overall process percentage shown in column C to "weight" the areas of maximum work with the result shown in column G. Column G is then summed for each CAO to develop the total Process Profile Variance for that "kind of contract" for that CAO. The Process Profile Variance for all Geographic (or Plant) CAOs are ranked with the ones closest to zero being those closest to the "master profile".